

**Larisa I. Avens**  
Research Fishery Biologist  
NOAA/NMFS  
101 Pivers Island Rd.  
Beaufort, NC 28516  
Ph: 252-728-8766 Fax: 252-728-8784  
E-mail: Larisa.Avens@noaa.gov

### **Education**

Ph.D. in Biology; May, 2003

University of North Carolina at Chapel Hill. Chapel Hill, North Carolina, 27599-3280.

Dissertation topic: Homing behavior, navigation, and orientation in juvenile sea turtles.

B.S. in Biology (with Honors); May, 1995

University of Wisconsin at Stevens Point. Stevens Point, Wisconsin, 54481.

*Study abroad:* August - December, 1993; Macquarie University, Sydney, Australia. Study tours in Fiji, Australia, and New Zealand, with emphasis on the environmental problems of the South Pacific.

### **Research Experience**

- Research Fishery Biologist with Beaufort, NC, National Marine Fisheries Service Laboratory; Jan. 2003 - present.  
*Project description:* Collection and histological processing of sea turtle skeletal elements for skeletochronological research and stable isotope analysis to study age and growth. In-water sampling of sea turtles to investigate site fidelity, growth, tag retention, and population sex ratios and genetics. Research involves accompanying pound net fishermen to fish their nets and assisting with fishing effort; when turtles are incidentally captured, they are tagged with both Inconel and PIT tags, straight and curved carapace measurements are taken, and blood and skin are taken for sexing and genetics, respectively.
- Dissertation research in conjunction with the Beaufort, NC, National Marine Fisheries Service Laboratory (Advisor: Dr. Kenneth J. Lohmann); Sept. 1997 – Jan. 2003.  
*Project description:* A study of homing behavior of juvenile loggerhead and green sea turtles, using laboratory orientation trials, mark-recapture experiments, and radio telemetry, as well as an investigation of the cues used by the turtles to orient and navigate during homing behavior.
- GS-5/7 Biological Technician and Student Cooperative Research position with the National Marine Fisheries Service (Advisor: Sheryan Epperly); May 1998 – Jan. 2003.  
*Project description:* Large-scale effort to obtain data describing the distribution, abundance, and demography of sea turtles in the inshore waters of North Carolina. Turtles captured using pound nets and other fishing gear are measured, flipper-tagged, and PIT tagged, to study growth and tag retention. Blood samples taken to determine whether serum testosterone levels are accurate indicators of the sex of immature sea turtles and tissue samples obtained to determine genetic origin. Additional experience involving collection and processing of histological samples to age loggerhead and Kemp's ridley sea turtles, aerial

surveys to document the distribution of sea turtles and cetaceans, and live capture and radio telemetry of bottlenose dolphins also obtained.

- Research assistant under the direction of Dr. Kenneth J. Lohmann, University of North Carolina at Chapel Hill; May - Aug., 1996 & 1997.  
*Project description:* Evaluation of the role of magnetic orientation in the migration of hatchling and adult loggerhead sea turtles (*Caretta caretta*). Assessment of hatchling loggerhead and hatchling green (*Chelonia mydas*) sea turtle responses to rotational displacements in order to examine mechanisms used by the turtles to counteract turbulence during their offshore migrations.
- GS-3 and GS-4 Biology Technician, U.S. Fish and Wildlife Service, Cape Island, Cape Romain National Wildlife Refuge, SC; May - Aug., 1994 & May - Sept., 1995.  
*Project description:* Population management and habitat restoration for South Carolina's largest nesting population of loggerhead (*Caretta caretta*) sea turtles and participation in the Sea Turtle Salvage and Stranding Network.

### **Teaching Experience**

- Teaching Assistant, University of North Carolina at Chapel Hill, Biology Dept.  
*Physiology:* (September, 1997 – May, 2000) Laboratory class involving experimental study of physiology. More recently, use of BIOPAC physiology software to non-invasively investigate skeletal and cardiac muscle function and respiration in the students themselves.  
*Cell & Developmental Biology:* (September, 1995 - May, 1997) Taught recitation sections involving lectures on the subject material, demonstrations, and reviews of information covered during the main lectures.

### **Publications**

- Avens, L.,** Johnson, S., Wang, J., Dukes, P., and Lohmann, K. J. (2003). Responses of hatchling sea turtles to rotational displacements. *J. Exp. Mar. Biol. Ecol.* **288**:111-124.
- Avens, L.,** McNeill, J., Epperly, S. P., and Lohmann, K. J. (2003). Site fidelity and homing behavior in juvenile loggerhead sea turtles (*Caretta caretta*). *Mar. Biol.* **143**:211-220.
- Avens, L.** and Lohmann, K. J. (in press). Use of multiple orientation cues by juvenile loggerhead sea turtles (*Caretta caretta*). *J. exp. Biol.*
- Avens, L.** and Lohmann, K. J. (in prep). Homing behavior and seasonal changes in the orientation of juvenile loggerhead (*Caretta caretta*) and green (*Chelonia mydas*) sea turtles.
- Epperly, S., **Avens, L.,** Garrinson, L., Henwood, T., Hoggard, W., Mitchell, J., Nance, J., Poffenberger, J., Sasso, C., Scott-Denton, E., and Yeung, C. 2002. Analysis of sea turtle bycatch in the commercial shrimp fisheries of southeast U.S. waters and the Gulf of Mexico. NOAA Technical Memorandum NMFS-SEFSC-490.
- McNeill, J. B., Epperly, S. P., **Avens, L.,** and Snover, M. (in review). Loggerhead sea turtle growth rates from North Carolina, U.S.A.

**Presentations**

- Avens, L.** and Lohmann, K. J. (2003). Oral presentation: Homing, migration, and navigation in juvenile sea turtles.  
*Abstract in:* Proceedings of the 23<sup>rd</sup> International Symposium on Sea Turtle Biology and Conservation, Kuala Lumpur, Malaysia; March 27-21, 2003.
- Avens, L.** and Lohmann, K. J. (2002). Oral presentation: Use of multiple orientation cues by juvenile loggerhead sea turtles (*Caretta caretta*).  
*Abstract in:* Proceedings of the 22<sup>nd</sup> International Symposium on Sea Turtle Biology and Conservation, Miami, Florida; April 3-7, 2002.
- McNeill, J., **Avens, L.**, and Epperly, S. P. (2002). Poster presentation: Estimated tag retention rates for PIT and Inconel tags in juvenile loggerhead sea turtles.  
*Abstract in:* Proceedings of the 22<sup>nd</sup> International Symposium on Sea Turtle Biology and Conservation, Miami, Florida; April 3-7, 2002.
- Avens, L.** and Lohmann, K. J. (2001). Poster presentation: Seasonal changes in the orientation of juvenile loggerhead sea turtles (*Caretta caretta*) from Core Sound, North Carolina, USA.  
*Abstract in:* Proceedings of the 21<sup>st</sup> International Symposium on Sea Turtle Biology and Conservation, Philadelphia, Pennsylvania; February 23-28, 2001.
- Avens, L.** (2000). Oral presentation: Homing behavior and orientation mechanisms in juvenile Loggerhead sea turtles (*Caretta caretta*) in Core Sound, North Carolina, USA. Annual North Carolina Sea Turtle Workshop, Beaufort, North Carolina; April 25, 2000.
- McNeill, J. B., Epperly, S. P., **Avens, L.**, and Sadove, S. (2000). Poster presentation: A preliminary analysis of growth data of juvenile loggerhead sea turtles (*Caretta caretta*) from Core Sound, NC, USA.  
*Abstract in:* Proceedings of the 20<sup>th</sup> International Symposium on Sea Turtle Biology and Conservation, Orlando, Florida; February 27-March 3, 2000.
- Avens, L.** and Lohmann, K.J. (1999). Poster presentation: Homing behavior in juvenile loggerhead sea turtles (*Caretta caretta*) from Core Sound, NC, USA.  
*Abstract in:* Proceedings of the 19<sup>th</sup> International Symposium on Sea Turtle Biology and Conservation, South Padre Island, Texas; March 2-6, 1999.
- Avens, L.**, Wang, J., Dukes, P., and Lohmann, K. J. (1997). Poster presentation: Hatchling sea turtle responses to rotational displacements: maintaining a migratory heading in a turbulent ocean.  
*Abstract in:* Proceedings of the 17<sup>th</sup> International Symposium on Sea Turtle Biology and Conservation, Orlando, Florida; March 4-8, 1997.
- Avens, L.** (1995). Oral presentation: Nesting and management of Atlantic Loggerhead sea turtles on Cape Island, SC.  
*Abstract in:* Proceedings of the Wisconsin Academy of Science, Arts, and Letters 125th Annual Conference, Madison, Wisconsin; April 22, 1995.

**Funded Research**

- Recipient of the PADI AWARE Foundation grant in aid of research  
Orientation mechanisms in juvenile loggerhead sea turtles, *Caretta caretta*, in Core Sound, North Carolina; June, 2001 (\$2000)
- Recipient of the Lerner-Gray Fund for Marine Research (American Museum of Natural History)  
Homing behavior and orientation mechanisms in juvenile loggerhead, *Caretta caretta*, sea turtles in Core Sound, NC, USA; June, 2001 (\$1000); June, 2000 (\$980).
- Recipient of Sigma Xi grant in aid of research  
Homing behavior and orientation mechanisms in juvenile loggerhead, *Caretta caretta*, sea turtles in Core Sound, NC, USA; June, 2000 (\$600).
- Recipient of PADI Foundation grant in aid of research  
The Orientation and Navigation of Juvenile Loggerhead Sea Turtles, *Caretta caretta*, in the Sounds of North Carolina; May, 2000 (\$1000); May, 1999 (\$2740); May, 1998 (\$3744).
- Recipient of the University of North Carolina at Chapel Hill "H.V. Wilson Scholarship" to promote marine research; May, 2002 (\$500); May, 2000 (\$500); April, 1997 (\$1000).

**Awards, Honors, & Activities**

- Runner-up award for best student oral presentation  
22<sup>nd</sup> International Symposium on Sea Turtle Biology and Conservation, Miami, Florida; April 2002.
- Member of Sigma Xi, the Scientific Research Society; May, 2001 - present.
- Runner-up award for best student poster presentation  
19th International Symposium on Sea Turtle Biology and Conservation, South Padre Island, Texas; March, 1999.
- Runner-up award for best student poster presentation  
17th International Symposium on Sea Turtle Biology and Conservation, Orlando, Florida, March, 1997.
- Secretary, Biology Graduate Student Association (BGSA)  
University of North Carolina at Chapel Hill; September, 1997 - May, 1998.
- Recipient of the "Fellowship for the Advancement of Women and Minorities in Science". University of North Carolina at Chapel Hill; September, 1995.
- Recipient of the Brian Eagon Memorial Award for excellence in Biology.  
University of Wisconsin - Stevens Point, May, 1995.
- Recipient of the "Who's Who Among Students in American Universities & Colleges Award". University of Wisconsin - Stevens Point; April, 1995.
- Member of Tri-Beta Biological Honor Society  
University of Wisconsin - Stevens Point; September, 1992 - present.